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ABSTRACT

Nonformal education programs operating in the modern sector in Ethiopia are described in a perspective relevant to the Ethiopian context. The modern sector is defined as those activities concerned with the manufacture of goods, extraction of raw materials, the processing of raw materials, the provision of services, and the creation and maintenance of certain types of infrastructure such as communications, roads, railroads, and air transportation. Following the introduction, which contrasts the modern sector with the rural traditional sector and discusses recent manpower studies in Ethiopia, a second section discusses the various formal vocational and comprehensive secondary schools. Information is provided on enrollment, statistics on graduate employment, and each school's ability to teach students saleable skills. A third and major section discusses each of the following three classifications of nonformal education training programs for the modern sector: Preservice training programs, vestibule training programs, and inservice training programs. The conclusions section describes characteristics which are general to all of the nonformal education programs and then outlines five points which the author feels could be used to explain the lack of or the success of vocational education programs. (SH)

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NON-FORMAL EDUCATION IN ETHIOPIA: THE MODERN SECTOR

Richard O. Niehoff

and

Bernard Wilder

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ABOUT THIS SERIES . . .

Through this series of reports we invite readers interested in non-formal education to react to our work and to contribute toward building a new and exciting field of inquiry and practice. These preliminary reports aim at making as explicit as possible some of the crucial issues in the theory and practice of non-formal education. While they represent considerably more than exploratory thinking, we do not think of these statements in any sense as final. Developmental would be a better word to characterize a field still so open to definition and so diffuse in conception and practice.

A word about the Program of Studies in Non-Formal Education at Michigan State University may be in order. The Program, under the sponsorship of the Agency for International Development has the basic purpose of building a systematic knowledge base about non-formal education in response to the growing need for authoritative information about this mode of education in the developing countries. There are nine areas of study: (1) historical perspectives, (2) categories and strategies, (3) country comparisons, (4) learning effectiveness, (5) economic factors, (6) case study survey, (7) model feasibility, (8) administrative alternatives, and (9) participant training.

Teams of faculty members and research fellows in a number of academic disciplines are working on the nine subject areas and the papers in this series represent portions of their production.

We invite responses to these papers as an important means of helping us critically to examine our work in a new field only now being given real form and substance.

Cole S. Brembeck, Director
Institute for International Studies
College of Education
Michigan State University
East Lansing, Michigan
June 14, 1973

NON-FORMAL EDUCATION IN THE MODERN SECTOR

By

Richard O. Niehoff

and

Bernard Wilder

PREFACE

The recent emphasis on the study of non-formal education has been prompted in large part by interests expressed by the governments of developing countries and funding agencies in various aspects of the use of non-formal education to facilitate social, political and economic development. This particular study was undertaken to provide planners with insights and data needed more effectively to incorporate non-formal education into planning and development processes. The first phase of the field work consisted of the investigation of specific individual instances of non-formal education activities. The second phase involves the synthesis of these individual investigations into a "country study" of the non-formal education activities as they were related one to another and to a possible pattern or "system" of non-formal education.

The underlying rationale for conducting studies of individual activities was to learn about the nature of the non-formal education programs being sponsored in Ethiopia, identify the factors that seem to lead to success or failure, to build a base for the

formulation of realistic generalizations about NFE as an integral aspect of the complex problem of development, and to identify areas for further study. The purposes behind synthesizing the individual studies into a "country study" is to discover the varied uses of NFE methods for development purposes into a relatively complete country context. The individual case studies answer questions concerning the application of non-formal education in specific development activities. The country study seeks to answer questions concerning the application of a "system" of non-formal education activities toward meeting the overall development goals of a country.

Ethiopia was chosen as the country in which to conduct this study because it was determined that there were a sufficient number of significant non-formal education activities being conducted there to supply the needed data and insights. This consideration was strengthened by the fact that Ethiopia is a country; one in which a significant sample could be obtained within the resources available for the study. Of equal importance was the fact that Ethiopia was receptive to the idea of the study. Further, the research team was asked to conduct the study as an integral part of the Ethiopian Education Sector Review which was being conducted at that time. The initial findings of the study and other papers written by the research team at the request of the director of the Review became a part of the Education Sector Review documentation.

This discussion paper represents one section of a larger report on the Ethiopian Country Study of Non-Formal Education to be published at a later date. A tentative outline of the contents of this forthcoming report follows:

CONTENTS

I. Summary, Findings and Recommendations

II. The Context Provided by the Ethiopian Education Sector Review

III. Non-Formal Education in the Country Context

- A. Objectives of the Study and Methodology
- B. Non-Formal Education in the Urban/Modern Sector
- C. Non-Formal Education in the Rural/Traditional Sector
- D. Literacy Programs
- E. Other Programs
- F. General Findings

IV. Problems, Planning and Implementation of Non-Formal Education in Ethiopia in Comparative Perspective

V. Appendices

- A. Program Descriptions of Individual Non-Formal Education Activities in Ethiopia
- B. Other

The subject of this paper, Non-Formal Education in the Urban/Modern Sector, will be included in Chapter III. It is in this chapter that the synthesis of the individual investigations of non-formal education activities into a larger context is reflected in four groups of programs. Rural/traditional and

urban/modern sector programs are treated separately because they have different objectives, are directed to different groups of participants, in different locations, in different economic and social.contexts. Furthermore, the classifications in terms of modern sector and rural/traditional sector are in common use by those, among others, who we hope will make use of these findings -- principally policy makers and development planners. Literacy programs are treated separately because of the large number of such programs found in Ethiopia and the importance given them in all sections of the Empire. The final classification includes programs that do not fit neatly into the other classifications because of the breadth of their objectives, the geographic scope of their operations or the unique nature of the sponsoring organizations. It is not an indication of their relative importance.

The discussion paper which follows is an attempt to place the numerous non-formal education programs operating in the modern sector in the Empire in a perspective relevant to the Ethiopian context. The authors realize that because the number of programs visited was small in relation to the total in existence, the conclusions must be considered tentative and in need of further substantiation. However, the authors have sufficient confidence in their conclusions to feel they are deserving of consideration by policy makers and planners.

NON-FORMAL EDUCATION AND THE MODERN SECTOR IN ETHIOPIA

By

Richard O. Niehoff

and

Bernard Wilder

I. INTRODUCTION

The "Modern Sector," as used here, is defined as those activities concerned with the manufacture of goods, extraction of raw materials, the processing of raw materials, the provision of services, and the creation and maintenance of certain types of infrastructure, such as communications, roads, railroads, air transportation, telephone, telecommunication and so forth.

The modern sector can be contrasted with the rural traditional sector which, by our definition, is concerned with agricultural activities, the provision of inputs to traditional agriculture and traditional non-farm activities, such as rural handicraft skills and small scale manufacturing in the rural areas using traditional technology. The rural traditional sector and modern sector can also be contrasted by their different geographic locations --

the organizations and activities of the modern sector being located in urban areas, whereas the organizations and activities of the traditional sector are usually located in rural areas. The two sectors also define two different groups of people, not only by geographic residence but also, as in the case of Ethiopia, by a difference in the level of schooling, literacy rates and all other indicators of human resource development; with residents of the modern sector generally rating higher than the traditional sector.

The rural traditional sector and the modern urban sector in the terms of reference of non-formal education, can also be contrasted by the types of non-formal education (NFE) programs one finds. The NFE programs servicing the traditional sector are generally large when measured by the criteria of the numbers of people influenced. The amount of training each individual person receives, however, is generally small.

Non-formal education activities in the modern sector are considered as a group because of the similarities in the types of programs conducted within the sector. There is also a similarity in the types and sources of technology applied within the sector. These activities, as indicated above, are mainly in the urban areas and the entrance requirements for non-formal education programs connected with them are generally similar. There is also justification for considering the programs as a group because the

objectives of the programs fall within central concerns of those considering the problem of "manpower planning." Finally, when we refer to the modern sector we are referring to a classification which is generally understood by economists, educational and manpower planners and others.

It would be useful to differentiate between types of non-formal education programs within the modern sector before beginning our discussion. There are a number of ways in which a classification coulb be accomplished. One would be to classify the training programs by the type of economic activity within the modern sector; that is, whether they are designed to provide infrastructure, manufacturing, transportation, communications, and so forth. This classification was rejected because of great similarities between non-formal training programs being conducted for various types of economic activities within the modern sector. Instead, the NFE programs will be considered not by the type of economic activity for which persons are being trained but by characteristics of the training programs themselves. We will use the classifications of pre-service training programs, vestibule training programs, and in-service training of three sub-classifications: apprenticeship (formal and informal), refresher or skill maintenance programs, and programs designed to facilitate the upgrading of the worker to a higher level position.

The Characteristics and Magnitude of the Modern Sector in Ethiopia

By any measure of importance, the size of the modern sector in Ethiopia is small. In terms of the

size of the work force, for example, the modern sector accounts for somewhat less than 10% of the total. In terms of share of gross domestic product, the modern sector, in 1969, accounted for only 16% of the gross domestic product.* In terms of exports, the modern sector accounts for *less than one percent* of the total value. The one aspect in which the modern sector overshadows the traditional sector is in its absorption of relatively highly trained manpower.

A Ministry of National Community Development and Sccial Affairs study of the training of manpower in Ethiopia, published in 1970, states that 33% of all the entrants to vocational-technical training programs had up to a 10th grade general education; 41% completed grade 11, and 26% had completed grade 12. To put this in its proper perspective, the modern sector utilizes a large percentage of the Ethiopians with formal education, while for the country as a whole, the literacy rate is only approximately 10%. It can be seen from the above that the entrants into vocational and technical training programs of the formal *and* non-formal variety, who represent less than 10% of the population, do not constitute a cross-section of the population as a whole, but represent those persons who have already had the opportunity for secondary schooling.

**Statistical Abstract 1970, CSC.*

Recent Manpower Studies in Ethiopia

The manpower needs in the modern sector have been described by at least three different organizations in Ethiopia. The Ministry of National Community Development and Social Affairs (MNDC & SA), within which the Department of Labor resides, has, as indicated above, published such a description in 1970. Other analyses have been made more recently by the Education Sector Review Task Force on Manpower, and by the Central Planning Office of the Imperial Ethiopian Government. All three groups come to the same general conclusion: namely, that in certain job classifications there are shortages of trained manpower in Ethiopia. They also conclude that there is an over-supply of certain other types of manpower, mostly graduates from the academic and comprehensive high schools, but also from the vocational schools. This situation -- where there is at the same time a shortage and a surplus of trained manpower -- is not dissimilar from that in other developing countries. The skills and attitudes of those in the surplus categories do not match the requirements of the job openings. Whether there would be a net surplus or a net shortage *if* the skills of the surplus matched the skills of the openings is disputed. Two of the three surveys mentioned above indicate no shortages if such "matching" was a fact. The third indicates a projected shortage of 22,000 second and third level personnel over the next ten year period.

Separate analyses of students enrolled in training programs of all types in Ethiopia were done by the staff of Education Sector Review and the Ministry of National Community Development. The first reported a total of 7,028 students enrolled in vocational training courses of all types, formal and non-formal. The second reported a total of 7,453. The breakdown in the figures supplied by the Education Sector Review indicates that of the 7,028 in their analysis, 6,616 were enrolled in programs of a structured nature -- that is, there was intentionality connected with the training. Approximately 50% were enrolled in programs which could be considered to be non-formal in nature -- in-service and plant training programs. The remainder were enrolled in formal vocational schools.

Of the three manpower studies, the levels of requirements were highest in those projections of the MNCD & SA Labor Office. A middle ground projection came from the Education Sector Review staff. The Central Planning Office projected requirements which were less than half of those proposed by the MNCD & SA Labor Office.

Representatives of these three groups who have conducted manpower assessments for Ethiopia in the last few years had an opportunity to interact through the recent Education Sector Review. The only real area of agreement between the three was that, in any case, a better assessment was needed. That there is indeed a shortage of certain types of trained manpower is evident from the fact that private industries

and government agencies in Ethiopia, as in other countries, are willing to or find it necessary to expend their own funds to train their employees to do the tasks they need performed. That there is a surplus of trained manpower on the other hand is evidenced by the fact that the graduates of vocational schools, as well as other formal schools, cannot find jobs, and are presently unemployed.

II. FORMAL VOCATIONAL SCHOOLS

There are four large technical, vocational or commercial schools in Ethiopia. The oldest is the technical school located in Addis Ababa. This school, established in 1941, offers a number of four-year courses in industrial-vocational subjects. To date the school has trained approximately 2,880 students. The present enrollment is approximately 695. The school has programs in arts and crafts, automechanics, carpentry, building trades, electrical trades, radio electronics, general mechanics, machine shop, surveying and drafting. Of the school's 50 teachers, 66% are Ethiopians. Half of the 29 Ethiopian teachers of vocational education have had at least a grade 12 education. Most, however, have had no occupational experience and are graduates of the school in which they are teaching. In July of 1972, the school is expected to graduate 141 students. These students, and other recent graduates, have found it necessary to form a self-help organization, which is working in

conjunction with the Center for Entrepreneurship and Management, to try to find jobs or create employment for themselves.

The next oldest school is the Commercial School of Addis Ababa, founded in 1942. This school offers three types of vocational business courses. The first, which is to be phased out after the 1971-72 school year, was a four year program for students who have successfully completed the 8th grade. The second is a two year course for students who have successfully completed grade 10. The third is a one year experimental course for grade 12 graduates. The fields of specialization are accounting, administration, and secretarial. To date the program has trained approximately 2,500 persons in these fields. Current (1972) enrollment in the Commercial School is 747 full-time day students.

The third technical school, located in Asmara in the province of Eritrea, was founded in 1953 and offers four year industrial-vocational courses. The students enter the school after completing the 8th grade. To date this school has trained approximately 900 persons in automechanics, building trades, electrical trades, general mechanics, machine shop, drafting and surveying. The current enrollment is 302 students, of whom 63 will graduate in July of 1972.

The fourth and newest school is a Polytechnic Institute located at Bahr Dar in Gojam province. This school was built by the government of USSR and is presently staffed partially by Russian teachers.

The school, though built to accommodate 1,000 students, had an enrollment in 1972 of approximately 250. The four main programs offered at this school are farm mechanics, weaving and textiles, woodworking and metal fabrication. A program in chemical technology has also been recently added. The school was originally a four year school taking students at the end of the 8th grade. It then dropped the first two years of its program, added two more years at the end, remaining a four year school, but now accepting students at the end of 10th grade, taking them through the first two years of third level education and granting the graduates a "diploma." The first two years of this latter program have been phased out and the school is presently accepting students who have finished grade 12, and provides a two year program.

The Education Sector Review (ESR) Task Force No. 8 on Vocational-Technical Education pointed out in their final report some reasons why vocational and technical school graduates have difficulty finding jobs. The most important of the reasons given was that the students had been inadequately prepared for their chosen occupational field. Further, it was felt that the graduates leave these training institutions with mainly theoretical knowledge, without adequate skills and practical experiences. It was also stated that many of these students "lack the proper attitude and occupational ethics on the part of a graduate and lack orientation to business and industrial

requirements."* Three other reasons given as to why the vocational-technical students have difficulty getting jobs revolved around a lag in industrial growth, the static situation in industrial establishments, and the lack of a national policy on employment. The report did *not* state that a major reason for vocational-technical school graduates remaining unemployed was the modern sector establishment's preference for training their own new employees, thus depriving vocational school graduates of access to these positions although some possible reasons why they might prefer to do so *are* stated in the report.

The above four major government-supported vocational schools graduated a total of 503 students in 1969. The number would have increased only slightly for 1971 and 1972. The 1970-71 annual report of the Ministry of Education indicates that the output of vocational-technical graduates is 50% behind the projected figures of the Third Five Year Plan. Despite these very low output figures, it was reported that some graduates could not find jobs.

Comprehensive Secondary Schools

A relatively recent innovation in education in Ethiopia has been the introduction of comprehensive secondary schools. The introduction of these schools was expedited by a loan from the International Development Association (IDA) to the Imperial Ethiopian government. The recent emphasis on "practical" streams

**Education Sector Review Task Force Report on Vocational and Technical Education, p. 32.*

in the comprehensive secondary schools was prompted by the realization that most students who finish secondary schools will not enter the University.

The first secondary school to be named a comprehensive secondary school was Woizero Siheen School in 1961. Since then 43 other comprehensive secondary schools have been established or converted from academic secondary schools. Some of these schools are at the junior secondary level (7th and 8th grade) and some are at the senior secondary level (9th, 10th, 11th and 12th grade).

There seems to be some confusion in Ethiopia, as there is in many countries that have adopted the comprehensive school concept, as to just what is meant by a "practical stream." In Ethiopia the various "practical" streams of the schools carry the labels: industrial arts, home economics, commercial and agriculture. Sometimes these are referred to as a group as "vocational streams." Sometimes they are referred to as "vocational programs" as such. The confusion seems to lie in whether or not these streams actually prepare secondary school students to directly enter occupations with the prerequisite skills. The usual concept as developed in western countries accepts that "practical streams" at the secondary level are *pre-vocational* and are not designed to prepare a student to enter a specific vocation with the prerequisite skills.

The practical streams of the 7th and 8th grade

comprehensive schools in Ethiopia are general and exploratory in nature, definitely pre-vocational. The programs at the higher levels throughout the senior secondary schools become more and more specific the higher grade they are incorporated into. At the higher levels they are perceived as preparing students for specific jobs. The original concept as exported, however, intends that students would not be given specific occupationally oriented skills. It is necessary according to this concept for students to either enter a vocational program that teaches job specific skills after comprehensive secondary school, or to receive further training on the job to obtain the necessary skills.

There seems to be some discrepancy in Ethiopia between the expectations held for the comprehensive school practical streams and what the streams are actually producing. There is evidence that the practical streams in the comprehensive secondary school have had relatively little impact at the upper secondary grade level. For instance, the practical streams enrolled a total of 31,334 students in the grades 7 through 12 in 1971-72. However, 52% of these were in the 7th and 8th grade; 24% were in the 9th grade, and 14% were in the 10th grade. Thus, only 8.6% of all students enrolled in the practical stream in the comprehensive secondary school were in grades 11 and 12, the terminal years.

It is probable that the concept of the comprehensive school as introduced and implemented in

Ethiopia has not appreciably changed the expectations of the students who make up the enrollment in the latter years of the comprehensive secondary schools. It has not dampened their enthusiasm for taking courses which will help them pass the Ethiopian School Leaving Examination which is necessary for entrance into the university. The small enrollment in the practical subjects at the upper levels indicates a greater desire on the part of the students to study for the leaving examination than to study subjects which have a "practical" orientation.

The contribution of the comprehensive secondary school is probably greater in the area of providing a practical orientation to those students who are "tapped-off" into non-formal training programs before finishing secondary school. This is a hypothesis which has not been proven. Many of the training programs in vocational technical institutes, health related institutes, and other agencies that train development personnel accept students who have only finished part of their secondary education. For instance, in the fields of agricultural education, medicine and health, industry, commerce, and social services, students are tapped-off to enter the training programs of governmental, parastatal and private organizations at the end of the 6th, 8th, 10th and 12th grades. The largest number of students are tapped-off at the end of grade 10.* During 1968,

*MNCD & SA report on training programs.

1,058 students entered such training programs after completing grade 6; 1,328 after completing grade 8; 1,925 after completing grade 10, and 1,556 after completing grade 12. It is not known what percentage of those "tapped-off" are leavers of comprehensive secondary schools and what percentage are leavers from the regular academic secondary schools.

The formal comprehensive, academic and vocational secondary schools definitely contribute students to the labor market who lack saleable skills. They also contribute students to the labor market who are *trainable* for specific occupations. If the formal schools did not provide trainable prospective employees, the organizations, industries and parastatal bodies which presently conduct NFE training programs for *specific skills* would also have to conduct *general education programs*. Indeed, some of the organizations visited have only recently been able to stop giving general education as part of their regular training programs because the output of generally educated persons from the formal schools has increased to the point where they can limit their training to specific vocational skills. It might be that the formal school makes its greatest contribution to the supply of trained manpower for the modern sector by giving emphasis to general training rather than vocationally specific training.

III. NON-FORMAL EDUCATION TRAINING PROGRAMS FOR THE MODERN SECTOR

The analysis of NFE programs in the modern sector will be divided into three main classifications. The first to be described will be *Pre-Service Training Programs*. This classification contains those programs that train persons for a specific position *before* he has actually been hired. The formal vocational schools, previously discussed, can be considered in this classification.

The second classification, *Vestibule Training Programs*, is actually a subset of pre-service training programs. The trainees in these programs are also trained prior to the time that they commence actual work on the job. The distinguishing feature of vestibule training is that the trainees have been *hired* prior to the time they are given training and are usually paid some amount while in training.

The third classification focuses on *In-Service Training Programs*. In this classification trainees are already employed and performing jobs but are receiving training at the same time or during interruptions in their work schedule. The training might be provided during the working day by being relieved of their duties for a period of time to take part in a training

program. The training might also take place at the same time that they are working through close supervision or after working hours. In-service training programs can be thought of as having three distinct types of objectives. The first type has the objective of *initial skill acquisition* and is exemplified by apprenticeship programs. The second has the objective of *skill maintenance*. This takes the form of programs intended to be refresher courses or the acquisition of additional knowledge and skills needed to adjust to changed requirements in the same position the trainees are holding and will continue to hold after training. The third type has the objective of *upgrading*. The positions being held may be upgraded and modified with the persons filling them, or the trainees may be receiving preparation for entirely new positions.

In a very over-simplified fashion, one might say that the three main classifications of training programs -- pre-service, vestibule and in-service -- are in the first case given before the trainees are hired; in the second case, after the trainees are hired but before they are working at specific jobs; and in the third case, after the trainees have begun working on the job.

A. Pre-Service Training Programs

Pre-service training for persons who have not yet been hired is provided by the formal schools or other organizations, such as missionary groups, YMCA,

YWCA, Mekene Yesus through its various churches and synods, the Confederation of Ethiopian Labor Unions, and Ethiopian Women's Welfare Association, or by "profit oriented" organizations. An example of a pre-service program conducted by a service organization is the secretarial school conducted by the Young Women's Christian Association (YWCA). The YWCA through its training committee had made a preliminary survey which indicated there was a need in Addis Ababa for highly skilled bilingual secretaries. The YWCA set up a program specifically to train such secretaries. The students, recruited from secondary school leavers, were given a two-year course supervised by a professional business educator on loan from the Canadian YWCA. The program was successful in that it did turn out secretaries who were skilled and fluent in both Amharic and English. However, upon graduation it was found that many of the institutions who said there was a need for such secretaries did not hire them. The first class that graduated waited an average of two to three months before obtaining jobs. The second class waited even longer. At the time of our visit to Ethiopia in April 1972, the YWCA had temporarily discontinued the program and was re-evaluating the need for skilled secretaries as well as the program. The YWCA indicated they would continue the program if there were any indications that a future expressed need would be followed by actual hiring of the graduates.

The Philadelphia Trade Training Center in Awassa provides pre-service training programs in the field of metal fabrication, carpentry, cabinet making and auto mechanics. The programs are two to three years in length and accept students with as little as four years of formal schooling. Up to the present, all graduates have been assured of jobs with various Swedish development activities in Ethiopia.

Another type of program providing training in skills used in the modern sector for individuals not committed to specific positions are those conducted by commercial concerns who use the training as a means to sell products, to insure that the products already sold are properly used, or to make a profit from an instructional fee itself. There are at least two programs in Ethiopia directed toward the training of tractor drivers. These programs do not limit the enrollment to trainees who already own tractors, but are also directed toward people who might want to buy a tractor. The courses include instruction in the operation and maintenance of the tractors. The Singer and Saba sewing machine companies conduct programs directed toward women who, they hope, will later buy sewing machines, or for women who have already purchased machines.

Some programs for which fees were charged involved the training of secretaries and typists. Secretarial programs are probably the most numerous of the fee-charging programs in the urban areas.

These programs run the gamut of schools which merely rent typewriters to schools which graduate fairly high quality secretaries.

Another type of profit-making non-formal educational activity is conducted by organizations which operate correspondence courses. A number of such courses are available and are reported to be in use throughout the country, but there are no available statistics covering this activity.

In the classification of pre-service training for persons not yet employed, the programs which have the greatest impact in numbers on the labor supply are those conducted by the formal vocational-technical and commercial schools. As has been pointed out earlier, however, these schools sometimes tend to be a little remote from the realities of the labor market itself.

Pre-service non-formal education training programs in the modern sector can be characterized by a number of features which hold more or less true throughout the range of those programs observed in Ethiopia:

--The sponsors of these programs are frequently concerned with the factor of profit. Whether the profit is derived directly from enrollment fees, as in the case of the large number of typing schools one finds in the cities, or whether it is from the sale of a product after one has been taught to use it, the underlying motivation for giving the training

is profit-making. (The exceptions being programs conducted by "social service" organizations.)

--A second characteristic feature is that some care is taken to identify the specific needs to be filled by the training. In the case of the YWCA Secretarial School, a survey was conducted to assess the need for well-trained bilingual secretaries. Another program sponsored by the YWCA identified a need for seamstresses, which formed the basis for the design of a spechfic program to fill that need. The Philadelphia Mission in Awassa had identified a need for woodworkers, cabinet makers, carpenters, metal workers and automechanics. The Mission then designed a program specifically to train people with the needed skills.

--In general, the program planners made conscious decisions rather early in their plans as to the type of trainee the programs would enroll. Sometimes the decisions were dictated by the content of the programs, but more often than not they were dictated by the motivation of the groups sponsoring the programs. For example, the YWCA has a stated commitment toward helping female school leavers. The Philadelphia Mission and Wonda Genet programs have a commitment to rural unemployed youth. Therefore, although the programs fill needs in the modern sector, the basic factors determining the characteristics of the programs are the enrollees and their needs, not the needs of the modern sector.

--Given a type of clientele, the programs are directed toward training the enrollees for specific jobs. The programs are not directed, for example, toward the secretarial or commercial field in general, but in the case of the YWCA, toward training school leavers to be a specific type of secretary. The YWCA applies the same type of planning to programs such as those broadly classified as "home economics" courses. These programs are not directed toward general skills in these areas. The YWCA sewing program, for example, is directed specifically toward entrepreneurial minded seamstresses who sell their products. The Philadelphia Mission program is not directed toward metal working and mechanics in general; it is directed specifically toward automobile mechanics, metal fabrication, welding or sheet metal fabrication. Some programs at later stages in the conduct of the training have introduced more general content. This broadening of the program often comes about because the people conducting the program find that the students they had admitted are lacking in skills other than the specific skills and knowledge necessary to perform the jobs for which they are being trained. Therefore some programs which originally were very specific, later find themselves, for example, teaching elementary cleanliness and grooming, and some find it necessary to include basic language and number skills.

--Although the programs described above do not

have a direct connection with a job, they react very quickly to the realities of the job market. An example is the cancellation of the YWCA secretarial program when there was difficulty in placing the graduates. It is also true that programs are modified frequently to meet changing demands.

B. Vestibule Pre-Service Training Programs

Pre-service training is seldom given by private or parastatal organizations to an individual not already employed. If, for instance, the Ethiopian Airlines wishes to train a mechanic, it will hire the person first, commit him to a contract, then give him the training for the specific job which he is to undertake.

Vestibule training programs for employees already hired but not yet "on-the-job" are more prevalent in the modern sector in Ethiopia than pre-service training programs. Vestibule programs are conducted by organizations such as the Ethiopian Airlines, Ethiopian Electric Light and Power Authority, the Telecommunications Authority, Imperial Highway Authority, the Wonji Shoa Sugar Estate, the Ethiopian Metal Tools Company, Bahr Dar Textile Mills, the Franco-Ethiopian Railway, the Commercial Bank of Ethiopia, the Tourist and Hotel Association, and many others. Some of these organizations are parastatal, that is, they are semi-autonomous agencies of the Imperial Ethiopian Government with varying degrees of control by the government. Parastatal organizations are generally

responsible for most aspects of their operations. However, most parastatal organizations receive some sort of preferential treatment either through direct governmental support, monopoly protection, import protection, foreign assistance, or in other ways.

These organizations are rational, economically speaking, and do not expend funds for training programs which are not absolutely necessary for their operations. Training programs are essentially conducted for only one reason: the organization cannot hire the people they need who already have the training at a price that they can afford to pay. By way of illustration, one organization operated without training programs in the initial stages of its development by relying on outside training institutions. At later stages, this organization found it necessary to conduct its own training programs when the outside institution closed.* Other organizations visited have had their own training programs since their founding, such as the Telecommunication Institute that began its training program in the late 40's.

When a training need is recognized by these organizations, it is first described in terms of

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*Ethiopian Airlines is an example of this. When the EAL began operations, its personnel were trained in the aeronautic training centers operated by ICAO. When this center closed, EAL founded its own school.

very specific types of tasks that must be performed by the trainee. A very specific job description is then usually formulated along with a very specific set of personnel requirements for the prospective employee to fill that position. The careful identification of the positions, the skill requirements, and the personal requirements of the individuals to fill the positions are used to formulate the content of the training program. This content, then, dictates the nature of the prior training which an individual must have before he can enter the program. If entrants are not available with these prerequisites then the organization must start its training at a lower level, to bring the available trainees up to the level necessary to enter the training program. As an example of this, the Telecommunication Institute technician's course once required 30 months for completion. Twelve months of the program was devoted to training in general electricity and electronics made necessary because enrollees were not available who had prior training in these areas. It is now possible to hire graduates from the technical schools who have basic electricity and electronics. Therefore, the Telecommunication Institute has recently been able to eliminate the 12 months of general electricity and electronics from its 30 month training program.

Organizations conducting vestibule training programs typically advertise vacancies for the positions

in terms of the entrance requirements, specifying what training will be given the job applicants. There are typically more applicants for the positions than there are openings. Selection is, accordingly, based upon performance in school, measured either by the number of years completed or by the number of subjects in which "passes" have been obtained in the Ethiopian School Leaving Examination. Many organizations also administer a separate examination, usually covering three basic skills: English, science, and mathematics. Only as many trainees are hired as will ultimately be needed to fill the available positions for which they are being trained. The training programs typically do not assume a drop-out rate. For example, if 25 people are needed by Ethiopian Electric Light and Power Authority as linemen, 25 will be hired and trained. This is possible because selection procedures are careful and the trainees are put under contracts which obligate them to work for the company for a certain number of years after their training. In exchange for this commitment they are paid while in training and in some cases are also provided room and board. The drop out rate from the training program is low because of careful selection procedures and the large number of people to choose from. The default rate on contracts after training is completed is also very low because salary rates are typically quite good in relation to other jobs available. Most companies also have good

employee personnel policies with established procedures for promotion and upgrading. Accordingly, the turnover is quite low. Some companies which -- five, six, seven years ago -- were doing a considerable amount of pre-service vestibule training have now almost completely phased out this type of training, and are now concentrating on either in-service upgrading or refresher type programs. Employment opportunities for new employees are, accordingly, very small.

C. *In-Service Training Programs*

Initial Skill Acquisition

Apprenticeship training is generally classified as in-service training directed toward initial skill acquisition. Training is sometimes organized, sequential, structured in nature and sometimes very informal, almost unintentional. Apprenticeship training often follows and supplements pre-service or vestibule training, and in several programs visited, the trainees went directly from vestibule training to in-service apprenticeship or other on-the-job training programs. The length of these apprenticeship and on-the-job training programs varied considerably and directly with the degree of technical sophistication of the job being filled. In some cases the vestibule training, followed by a period of on-the-job training, was followed again by a second period of full-time training. This schema of

training is sometimes referred to as a "sandwich" training program.

The impact of apprenticeship training in Ethiopia is difficult to quantify. It is a type of program that the Labor Department Office of the Ministry of National Community Development and Social Affairs is pressing to "formalize" by establishing training standards coupled with universal job descriptions and skill classifications. One advantage of having apprenticeship training programs carefully regulated, administered, and controlled is that specific levels of skills and wages can be established. Too tight governmental control would have obvious disadvantages. The organizations presently training workers through apprenticeship training programs may find the attempt to formalize so successful that it will be necessary to look for other means to provide the needed flexibility for their training needs.

A recent survey by the Labor Office of the Ministry of National Community Development and Social Affairs received information regarding "on-the-job" training from 161 establishments, all within the private sector (not including parastatal and governmental organizations). These establishments were primarily located in the two main industrial centers of Ethiopia, Addis Ababa and Asmara, and were medium or large establishments. The survey report indicates that there is doubtless a considerable amount of on-the-

job training in establishments smaller than the ones surveyed but as it was very difficult to obtain information from smaller establishments and cottage-type industries, they were not included within their study.*

The 161 establishments responding had an average of 7 on-the-job trainees with a total of 1,176 trainees reported. Of these trainees, five were in agriculture, 10 were in mining and quarrying, 911 in manufacturing, 15 in construction, 95 in commerce, 21 in transport, storage and communication, and 119 in services. A further breakdown of this same group of 1,176 by skills indicated only two large concentrations. In the textile trades 399 were being trained as spinners, winders, weavers, or other related skills, and 223 were in motor vehicle mechanic training programs of one sort or another.

Skill Maintenance Programs

Refresher programs have been typically conducted by organizations whose personnel are required to perform very technical operations. An example is the program for Ethiopian Airlines for mechanics. Every year the mechanics are required to attend a refresher program where they review procedures for maintenance

**What constitutes a "small establishment" was not explained. Conversation in Ethiopia indicated that establishments with "10-15 or fewer employees" are considered as small.*

of aircraft and are briefed on modifications and procedures that have been recently issued by the aircraft manufacturers. The distinction between an upgrading program and a refresher program becomes very indistinct when the individual is learning new skills, but will remain in the same position. The expectation of the employee often is that anytime he receives further training, he will be promoted. The failure to establish the distinction between upgrading the individual's capacity within the same position and upgrading the person to a new position causes some confusion and disappointment for the trainee.

Upgrading Programs

Many organizations in Ethiopia conduct programs that are designed for individuals presently filling a position within the organization who are being trained to fill another position at a higher level of technical competence or responsibility. The programs in this classification have many of the characteristics of vestibule training programs. In fact, in some cases the difference between an upgrading program and a vestibule training program is only that in the former the individual who enters the program was previously employed by the same company in another position, in the latter he is a new employee.

Some upgrading programs are run by organizations *other* than the employer. The Ethiopian Confederation of Labor Unions (CELU) is an example of such an

organization. In Addis Ababa, CELU upgrading programs are being conducted in building trades and in auto mechanics. The participants in the program must be members of the labor unions, and must be presently employed in jobs that utilize the skills they are going to study. The program is funded and organized by the CELU, but is actually conducted by personnel from the government vocational schools on a contract basis in the evening. The objective of the program is to broaden the skills of the construction workers and mechanics to make them eligible for promotions, improving their job mobility possibilities and to provide certification of a certain level of training. The Director of Education for the CELU stated that the employers do not always appreciate this effort by the union to upgrade their workers, as employees usually expect an increase in wages as they increase their skills. The employers do not always feel this is warranted or necessary.

The Telecommunication Institute is presently enrolling workers in their lower level technician courses who were originally hired as illiterate day laborers. At one time they had attended literacy classes conducted by the same Institute. This is an example of illiterate labor being elevated to the level of literate labor, making them eligible to participate in skill-upgrading courses. This practice will make it more difficult for formal vocational schools to place their graduates in training programs.

Organizations following this practice will select trainees internally and hire more day laborers to replace those entering training programs.

Other Training Activities

There are two other organizations within the Ethiopian government, funded by the United Nations Development Program and aided by the International Labor Organization, that address themselves to the training needs of the modern sector. These are the Center for Entrepreneurship and Management and the National Industrial Vocational Training Scheme. Both can be characterized as "extension efforts" within the modern sector. The Center for Entrepreneurship and Management (CEM) is directed toward the promotion and improvement of entrepreneurial and managerial skills. It is primarily concerned with the management and sales aspects of the modern sector and provides training programs on request. CEM also offers a series of training programs that are advertised and are open to anyone who can pay the fees. Programs have been conducted dealing with quality control, advertising, marketing, sales management, and selection and interviewing, among others.

The National Industrial Vocational Training Scheme (NIVTS) directs its efforts primarily toward semi-skilled and skilled workers and other personnel below the supervisory and managerial level. The NIVTS does not usually set up or conduct programs itself.

Its primary focus is on aiding establishments to organize and conduct their own in-service training programs. Toward this end NIVTS helps firms to analyze their training needs; to identify the skills and knowledge necessary; to set up the training programs; aid with the preparation of instructional materials and train instructors selected from within their own organizations for the programs. At this point, the NIVTS's role is completed, except to serve as consultants if invited.

At the time of the study a third organization, Opportunities Industrialization Center, with support from the United States Agency for International Development, was in the process of establishing a program. Their general method of operation will be to identify specific job openings or training needs and then to design equally specific training programs to prepare people to fill those openings. Although initial financial support comes from outside sources, it is the intention to shift the burden of support to those organizations utilizing the trainees. This might turn out to be economical for the firm only when it needs so few trained employees that it cannot justify conducting its own training.

IV. COMMENTS AND CONCLUSIONS

In general, it can be said that the private, public and parastatal organizations within the modern sector effectively use non-formal education techniques

to meet their manpower needs. Other organizations such as the CEM, the CELU, the NIVTS, also provide help to organizations in the modern sector in meeting their manpower training needs. Several private profit-making organizations also train people for the public sector. It is generally agreed by those participating in the Ethiopian Education Sector Review, however, that the ultimate benefit to the student enrolling in this latter group of programs is not commensurate with the cost or time required.

The programs within the modern sector, whether they be pre-service, vestibule, inservice apprenticeship, skill maintenance, or refresher programs, all tend to have some general characteristics. These include:

--The educational and training goals are well defined and specific. The organizations conducting the training know specifically the type of persons they need and in what number they are needed. Programs are seldom diffused by the inclusion of peripheral goals. The programs seldom enroll more trainees than are needed as workers.

--Training programs that are designed to meet the specific and well defined goals referred to in the above are equally specific. They place heavy emphasis upon practical application of skills. Theory is included only insofar as it is necessary to understand the particular skills being taught or the context within which the person is working. There is

no attempt to produce a well rounded, generally educated individual. Mathematics, for instance, is taught only if a person in that particular job has an application for mathematics.

--Many of the pre-service training programs, and particularly the vestibule training programs, are full-time and relatively long -- some up to 30 months in length.

--Vestibule training programs are often highly structured and as "formal" as any to be found in the "formal schools." The training program for the Ethiopian Airlines uses the exact same curriculum and materials used by the Northrup Institute of Technology in the United States. The program for the Telecommunications Institute follows closely the program requirements for the London City and Guilds Examinations. Many of the students take and pass this examination upon finishing the Telecommunication Institute programs.

--In line with the above, the training staffs are usually technical-professional people and sometimes even professional educators. Many of the programs utilize foreign personnel. The quality of the instructional staff is generally high, very skilled and experienced in the work for which they are training people.

--The requirements for entrance into most programs are couched in terms of a particular level of schooling along with some sort of an aptitude

examination which is given by the organization. Programs do *not* typically serve those who have had no opportunity for formal schooling. In fact, the higher the technical skills involved and the longer the training program is, the more formal schooling is required for entrance. This bears out T. W. Schultz's thesis that the more formal education one has had, the more non-formal education one can command. This is part of the appropriative value of formal education. Often the admittance requirements for these programs reflect a level of schooling and not a specific curriculum or type of schooling. In some cases the officials interviewed stated they would rather not have students that come from vocational schools. Some stated a preference for 8th or 10th grade leavers rather than 12th grade leavers.

--The cost of conducting these training programs is relatively high per capita as compared to other non-formal education programs. Whether or not the per capita cost is high compared to formal vocational schools, when one considers the number of people entering the specific occupation being trained for, is not known. It is possible that employers can afford to pay twice as much to train a mechanic if they are twice as certain the trainee is going to be actually employed as a mechanic than when 30 are trained and only 10 go into the work force as mechanics. There is another factor to consider in terms of costs when a non-formal education program is conducted

and paid for by the organization utilizing the trainees. The ultimate cost in this case is borne by those who use the goods and services of the organization. In the case of the formal schools, the cost of the training is distributed throughout the population, *whether or not those people make use of the services*. In the specific case of the Ethiopian Airlines, it would make little sense to require the total population to contribute to the cost of training the personnel for the organization when only a very small percentage of the population have an opportunity to utilize the services of the organization. The present situation with Ethiopian Airlines is that the cost of training the personnel is passed directly on to those people who have the benefit of the services.

--The teaching materials and methods for training seem to be basically universal, as are the technologies being taught, with little apparent need for indigenous materials. As was stated earlier, the materials used by the Ethiopian Airlines are those that are used by the Northrup Technical Institute in the United States. The material used in the Telecommunications Institute, the Imperial Highway Authority, Center for Entrepreneurship and Management, Wanji-Shoa Sugar Estate are universal to those used in similar technologies in other parts of the world.

--Most of the organizations conducting training had regularized increments in salary, fringe benefits and regular patterns of promotion through

participation in educational programs. These features minimize the "drop-out" rate from the training program and the industry itself. There is little personnel turnover and a decreasing need for replacement personnel. The primary need presently arises from the case of expansion of the particular organization. This has been reflected in some agencies in that their training organizations are concentrating more and more on in-service, upgrading and refresher programs rather than pre-service training programs for new employees.

--It is evident that programs are designed primarily to serve the interests of the organization that is sponsoring the program and only secondarily to serve the interest, *per se*, of the student. The programs are not planned with the needs of the worker being the primary concern, but with the needs of the organization for which he is being trained.

In summary, reviewing the non-formal education programs conducted by and for the modern sector, it is safe to assume that these organizations have developed methods of supplementing formal schooling through non-formal methods for meeting their own manpower needs. Usually these methods have relatively little relevance to mass programs of non-formal education. The techniques lend themselves to meeting the specific problems and for executing the specific programs that have been identified. They do not lend themselves directly to programs that might be

designed to meet the problems of the mass of the population of Ethiopia.

John Hanson, a long time student of African education, in his monograph "Imagination and Hallucination in African Education" outlines five points which we generally agree can be used to explain the lack of or the success of vocational education programs. It is revealing to review these five points and to consider the non-formal education programs just described in light of them.

Hanson's first point is that *students* must perceive that the vocational education will have a payoff. In the programs just described, with the possible exception of some pre-service programs, it is very evident to the student that the programs will result in a job. More pointedly, in all but one classification of programs, the student is *already employed*, is already being paid and has assurance that further training will lead to further compensation.

For the vocational program to be a success, Hanson, in his second point, states that "the programs must develop good work habits." Most of the programs described above are conducted very close to the point of application. Many actually include on-the-job training and practical shop experience where the students are required to develop work habits appropriate to the training that they are currently receiving.

The third point brought out by Hanson is that the

training programs must be relevant to the conditions, the jobs available and the type of work to be done. By virtue of what has just been indicated about the development of work habits, the programs described in the modern sector using non-formal education techniques have relevance as they are being conducted *within* the industries and often directly related to specific jobs being or to be performed.

Fourthly, according to Hanson, there must be a bridge between training received in schools and earning power. Again, when the training is being conducted *by* the industry which directly relates training to compensation, there is no necessity for a bridge. They are already both on the same sides of the river.

The last point is that there must be reinforcement by continued help and follow-up through cooperation between the training organization and the employer. Here again, because the programs are being conducted by the organizations which utilize the trainees, there is continuous and immediate feedback to those programs. It is evident that the non-formal programs described meet all five criteria proposed by Hanson for success in vocational educational programs.

It is extremely hazardous to compare non-formal education programs serving the modern sector with those serving other sectors by using a limited number of descriptors. Variables related to the number of students, the cost per student, the length of the

program and the level of the knowledge of skills that make up the content of the program are so great as to defy close comparison. The training programs of the Ethiopian Airlines, for example, have a high per pupil cost and enroll comparatively few individuals. The programs, however, are very intense, relatively long and the content is highly technical and critical. One cannot compare this non-formal education program with the non-formal education activities of the Ministry of Agriculture's Minimum Package Program, for example, which affect relatively large numbers of people at a per trainee cost that is low compared to the EAL, but for much shorter periods of time and with content that is at a relatively low level of technical complexity.

In conclusion, it might be stated that there are probably only two basic reasons that the private or parastatal organizations train their own personnel:

1. The persons needed are not available from other sources. If the needs of their organization are to be met, they must be accomplished through programs conducted by the organization itself. (The deficiency in people available refers to value and attitudinal requirements as well as skill and knowledge requirements.)
2. The organizations (private or parastatal) do not choose to hire the trained people that are available. This policy might be due to economic reasons. Wage scales in Ethiopia are generally

established by rates paid in the civil service which are geared to levels of academic attainment. For example, the usual starting salary for a college graduate is 450 Ethiopian dollars a month. If an organization can save $100 a month over a ten year period by employing a person of lesser academic qualifications, it can afford to spend somewhere around $10,000 E. to train a worker and come out even or better at the end of ten years. This is an extreme example in terms of the cost of the training program, but typical of the amount of savings. Over a ten year period, a company would stand to realize savings of around 400% on its original investment in a training program for 30 people costing $3,000/person if it can save $100 a month per person in salary.

Whatever the basic reasons, it is evident that the organizations making up the modern sector can and do meet their own manpower needs. It is problematic, then, as to the amount of public funds that should be spent to try to meet the same needs in whole or in part.